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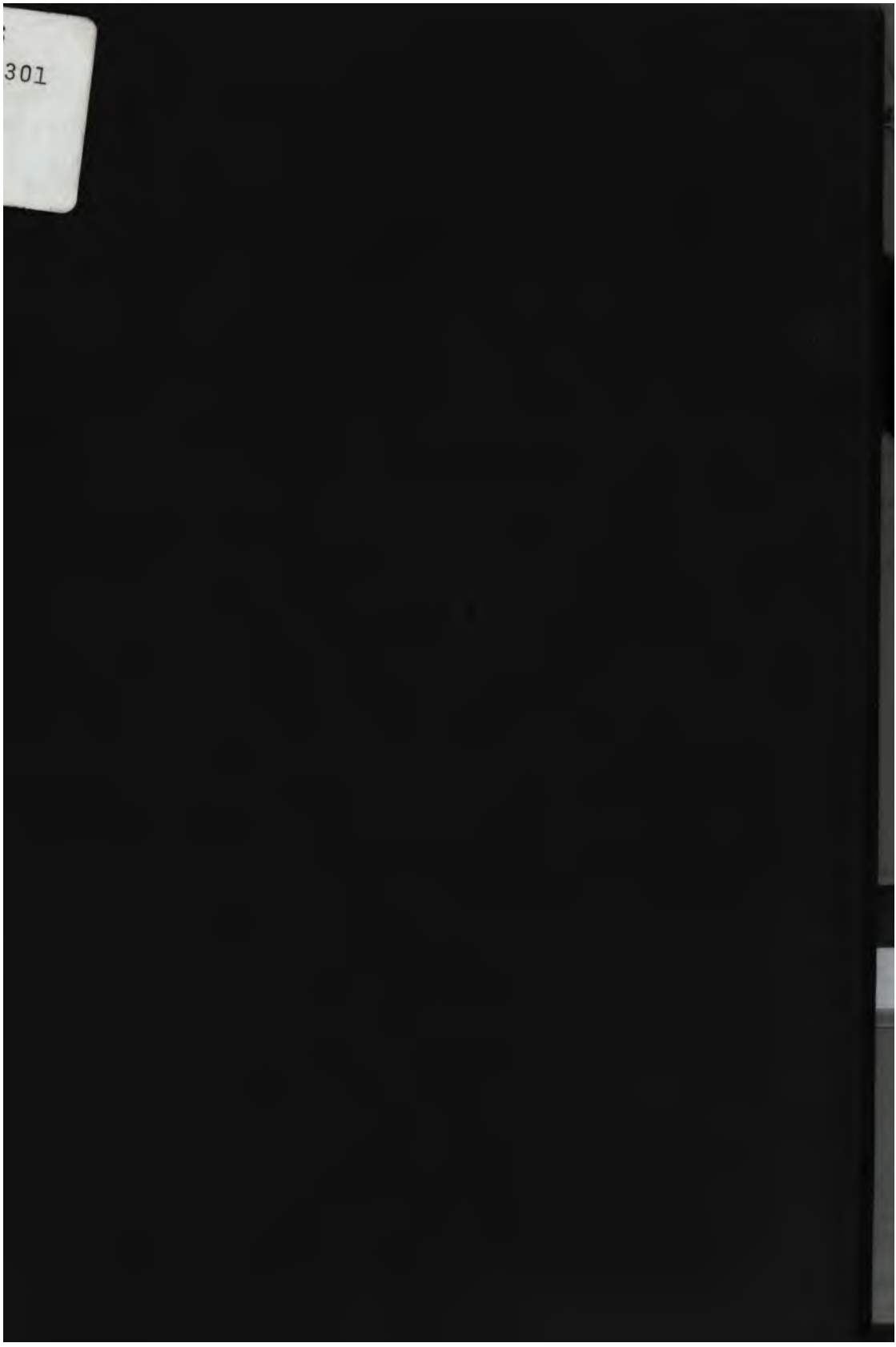
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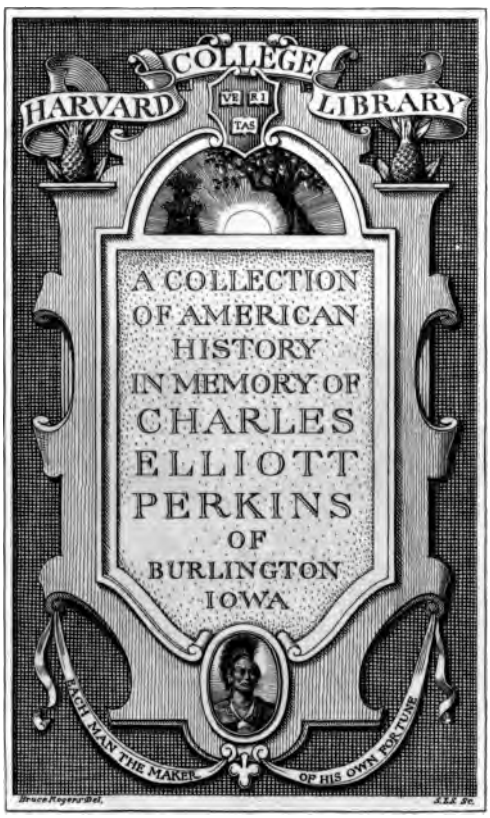
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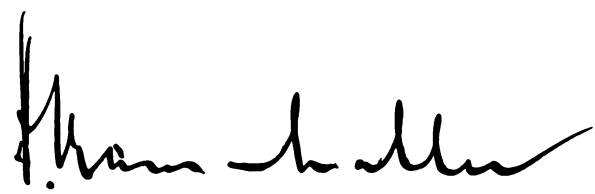
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A Ponca City "Home" twenty-six years ago

THIS is a history of Kay County, Oklahoma.

An account of its transition over night from an Indian Reservation and a cattle range, to a country swarming with farmer-settlers and town-builders.

An account of its growth and development as a stock-raising and farming country, and of its recent transition to an oil producing and refining county.



The Ponca City Home of today. Residence of E. W. Marland



TEN years ago, herds of cattle and droves of horses were produced on the plains of Kay County and shipped to the eastern markets, where they provided meat for millions of people and motive power for thousands of carriages.

Today these plains still produce abundant crops of grain to help feed the hungry millions, but instead of producing horses they now produce thousands of barrels of oil, which provide the motive power for vehicles that are no longer horse-drawn.

The cattle pens and horse corrals have given place to refineries which turn out the gasoline and oils to propel the modern automobiles and heavy trucks that have relegated the family carriage horse and heavy draft horse to the things of an almost forgotten past.

Kay County, Oklahoma, lying in that region known as the Mid-Continent Oil Field, produces a substantial part of the enormous quantity of gasoline and lubricating oils shipped from that district to the



Tank cars now take Kay County oil products to the markets of the country



A "Town" in Kay County twenty-six years ago

markets of the world. Its gasoline and motor oils propel automobiles in the streets of New York, London and Paris today, as formerly its horses, which were once a great product of the region, drew carriages through those same streets.

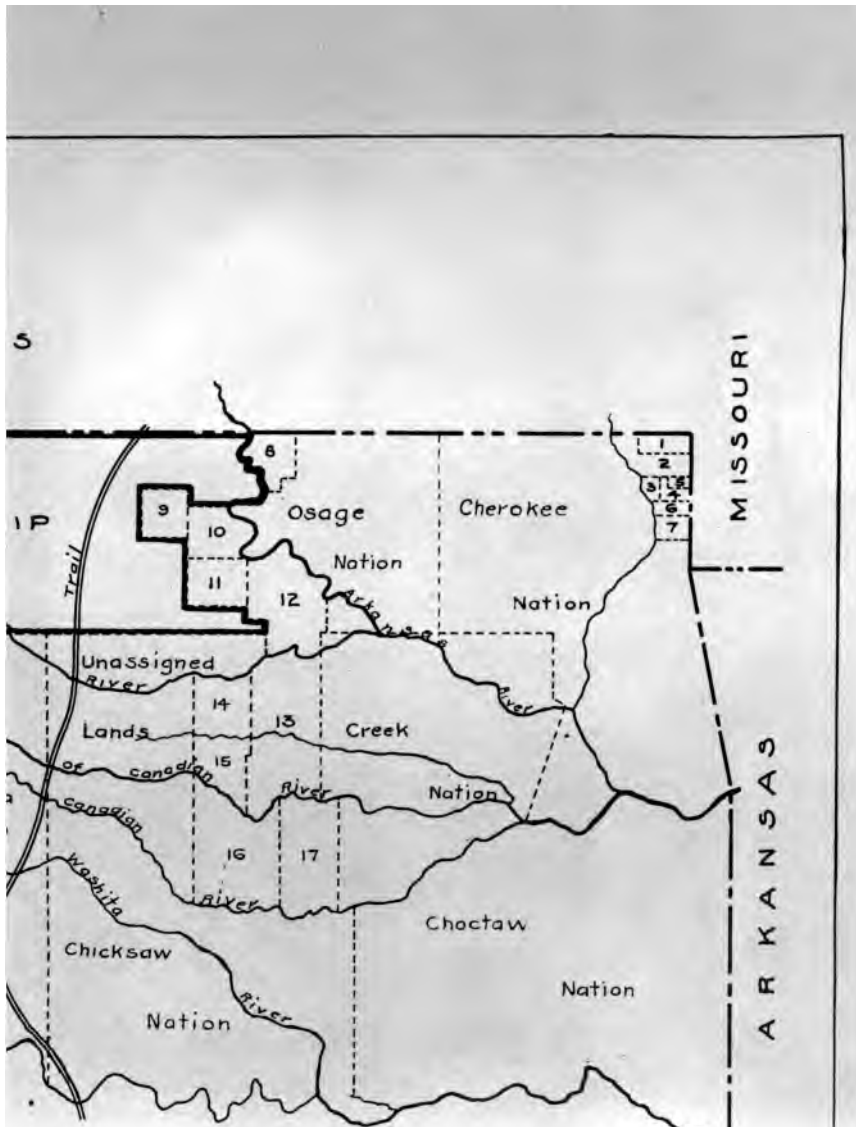
This enormous change has taken place during the lifetime of men who are still young. The cow-puncher and horse-wrangler of yesterday are the oil field worker and roustabout of today.



Until 1893, the region now included in Kay County, Oklahoma, was part of a vast Indian country, inhabited by bands of roving Indians, living in tepee villages and in covered wagons. Pioneers among the white men had grazed their herds of cattle over this Indian reservation and Easterners had







E "STRIP"

—From Oklahoma School His





A dinner on the Round-up, in "Kay County" thirty years ago

hunted game over its plains and wooded valleys. It was known as the Cherokee "Strip," or Cherokee "Outlet," because it had been ceded to the Cherokee Indians by the United States Government in order to provide them an outlet from their larger Reservation further east to their summer hunting grounds in the Rockies. Kay County also includes what was then the reservations of the Nez Perce, the Tonkawa and the Ponca Indians.



Chief White Eagle, for many years leader of the Ponca Indian Tribe

The present site of White Eagle, in the southern part of what is now Kay County, was then the central point from



Cattle driving great herd of cattle from the Texas Plains to graze on the hills of Indian Territory
In Kay County 1886

which great herds of cattle were gathered from the boundless plains of west Texas and re-distributed over the more fertile hills of Indian Territory. Not only in those days of the Indian and cattleman, but for many years to come, the hills of the Strip and the hills of the Osage provided hiding places for outlaws that made three decades famous.



The Dalton boys grew up in this region. Bob Dalton, who was killed in the Coffeyville raid, bought his famous "Red Buck," the white-faced race horse with a curly coat, from Henry Wilson, a cattleman who worked the range just east of the Arkansas River from where Ponca City now stands. Emmet Dalton not only



The hills of the "Strip" provided refuge for outlaws of three decades

grew up in this region, but he lived here for many years after his brother was killed in the south Kansas hold-up.

Henry Starr, perhaps the most notorious bank robber the West has seen, likewise ranged over the hills of this same region. Ben Cravens, now serving a sentence in the Federal Penitentiary at Leavenworth, Kansas, for killing Alvin Bateman in a hold-up at Red Rock, just across the line south from Kay County, began his life as an outlaw by stealing horses and cattle from Kansas settlers and escaping with them across the line to the trackless hills of the Strip. He was first arrested at Blackwell, in Kay County, when his partner, Three-Finger Dick, was killed and Cravens himself was wounded.





Over the Chisholm Trail, from the plains of Texas to the slaughter houses of Chicago

In those earlier days, the dusty trails over which the cattle of the Texas plains were driven to market, passed through this same Strip. The scar of ten million hoofs can still be seen across the country. This was the Trail blazed by Old Man Chisholm to transport his great herds of fattened beef to the nearest railroad point in Kansas, from which they were transported by train to the slaughter houses of Chicago. That was back in the days when the Great Plains of the West made America the largest producer of beef of any nation in the world.



So late, even, as ten years ago—many years after the railroad and the white man had



"Town Council" in Ponca City twenty-six years ago

driven the coyote and the bank robber across the Arkansas River into the Osage Reservation where they made their last stand—stock pens made up a big part of Ponca City. The very site on which the Marland Refinery now stands was occupied ten years ago by cattle pens, and it was less than a decade before that the round-up and its branding of cattle were the chief industries of that location.

The Cherokee Strip could not remain long in its natural, undeveloped state when the territory to the north of it, in the state of Kansas, was a region of



The first great industry in Kay County

homes, and when the pioneers of North and East were constantly extending the western fringes of civilization. Men who wanted lands on which to farm could not remain contented when there was before them a vast empire, its hills used only as grazing grounds for cattle, its valleys cow camps for the round-up, its "cities" nothing but Indian villages, and its "homes" tepees that might be moved in a night.



American young men and women, desiring homes for themselves and their children, demanded of the Government that the blanketed squaw and the plumed and painted buck be moved on to other less fertile reservations, and that the land which they were too idle to farm be given over to whiter hands more willing to till the soil.



An early day picnic. Picket, a negro, is throwing a steer bare handed on the 101 Ranch



A picnic among the Indians in "Kay County" thirty years ago



Its plains were used only as grazing grounds for cattle

Bands of settlers were organized at Caldwell and other Kansas towns to seize the land from the cattlemen, drive out the Indians and build new homes in the Indian country. Captain David L. Payne repeatedly led expeditions into this region, each time to have the United States soldiers destroy his settlements and escort him and his followers to the Kansas line. These men were called "boomers." They planted one colony at Rock Falls, in the northwestern part of what is now Kay County, in 1884. Payne died that autumn at Wellington, Kansas, but his followers continued the contest. Their fight for homes caught the



Captain David L. Payne





A Boomer's homestead. The first w



man's home in "Kay County," 1884



David L. Payne's headquarters at Rock Falls, now Kay County, in 1884

sympathy of the country and Congress was forced to provide for the opening of a part of the Indian Territory in 1889. Other smaller tracts were opened each year until 1893, when Congress arranged for the "Big" opening, the opening of the Cherokee Strip.

This tract of land was fifty-eight miles wide, its north boundary the Kansas line. It was more than one hundred and eighty miles long. Its east boundary was the Osage Reservation and its west boundary was the Panhandle of Texas and No Man's Land of Western Oklahoma. It had an area of more than ten thousand square miles. It was larger than the State



of Vermont. It was surveyed into homesteads of 160 acres each, called quarter sections. There were "quarters" for more than forty thousand families. The country was surveyed into counties, townships, sections and quarter sections, with townsites staked at convenient distances, all ready for the home-seekers.

The Cherokees were paid $8,300,000 for the entire Strip, or about $200 per quarter section. The townsites were thrown in. The Pawnees and Tonkawas were paid $110,000 for the surplus lands in their small Reservations at the same time. The Poncas kept their lands. They are now drawing immense royalties from the oil fields on their Reservation.

When word went out that Congress had authorized the opening of the Cherokee Strip, and that there would be a race for farm lands and town lots on Saturday, September 16, 1893, home-seekers and adventurers from East, West, North and South began to gather along the southern boundary of Kansas, together with the farmers who had forced the opening of this land by Congress. Most of the land was immensely fertile. Railroads were already building into the country from North and East. Old established cities were just across the line north, and those pioneers



The beginning of the end for the Red Man



White men had already run the buffalo from the plains

could see the vision of new cities with great office buildings and factories springing up in the new country.

Weeks before the opening, the entire country was cleared of white men. Bands of cavalry from the United States Army searched out those who were left, arrested them and kept them prisoner until after the "run." They burned all the improvements these people, called "Sooners," had built.



The rules laid down by the Government provided that each home-seeker must remain off the Reservation until noon on Saturday, September 16. At high noon, the signal would be given and the first person to place his stake on a quarter section of land or a town lot would own it.



Followers of David L. Payne were hardy, resourceful men. This photograph was taken in the Spring of 1884 at Rock Falls, in the northwest part of what is now Kay County



Indians had begun to gather in villages and to plan on passing on to less fertile reservations



The day of the Texas Steer and the Howling Coyote was passing

Men and women began to gather along the northern boundary of the Strip weeks before the opening. They came in wagons, on horseback, in carts, and buggies, on plows, on bicycles, afoot. Many prepared for months for the "greatest horse race in history." Some went to Dakota, Montana and Wyoming to get bronchos of the western breeds on which to make the race, and trained them for speed and endurance. One man went to Idaho and spent three months driving a herd of horses back, fifteen hundred miles, to the edge of the Strip.





A herd of buffalo, relic of an age almost forgotten, is still being kept on the 101 Ranch, near Ponca City

Morning of September 16 found these people a mass of excited humanity along this strip a hundred and eighty miles long. There may have been fifty thousand of them, or a hundred thousand, or two hundred thousand. No one will ever know. There were honest men and thieves, bankers and paupers, adventurers who wanted nothing but the excitement, and real farmers whose entire possessions were in the wagon with them, including a house of canvas, a family and a dog—seeking a home they could call their own. The man who sought a "new start" was there, the pro-



fessional gambler, and the business man who saw in the "run" nothing more than an opportunity to obtain a good piece of land at little cost. Each had his stake, and each had his gun.

Soldiers stood guard along the entire length of the line during the morning. A pistol shot fired at high noon was to be the signal. As the time for the start approached, men fought for places in the lead. They petted and groomed their horses, they gave their saddles and wagons a final inspection. There was little trouble. The atmosphere was too tense for that.



Thousands saw the smoke of the pistols, fired at regular distances along the line, but no one heard them, for the race had begun.

Many strange stories are told of that race. One woman, a widow, was sitting on the tailboard of the wagon which her son was driving, each intending to obtain claims on good farms. A couple of miles south of the Kansas line the team became madly excited and ran away. The widow was jolted off the tailboard of the wagon and was left sitting there in the rough country while others rushed past her into the better farming districts further south. She drove her stake and stayed. She lived there for years, working out the hardest kind of a livelihood on this rocky, barren farm. About twenty years later, oil was discovered in this region, and she found herself owner of one of the best oil properties in the district.



"Unlucky" ones were forced into the gulches of Northeastern Kay County, now the Mervine Oil Field

It was inevitable that many, who late at night reached the region they had decided upon and staked their claims, should find next morning that someone else had settled on some other part of the same claim. There followed a comparison of notes to find which arrived on the claim first, a few minutes of bartering, then one man usually moved on rather than carry on a contest in the courts. By Sunday morning, all the good land in the flats was, of course, taken up, so these less lucky ones had to go into the hills and take the best of what was left.

There is one region in the northern part of Kay County that was held almost entirely by those "unlucky ones" in the race. The farms were rocky and cut up by gulches. Those pioneers were barely able to make a living during the years that followed the run. Many of them sold their claims for the first price offered and left for another frontier.



There were honest men and thieves, bankers and pa
real farmers who wanted homes. At the c
horseback, in carts and buggies, on plo
was taken at high noon on Sa
settlers rushed from the



adventurers who wanted nothing but excitement, and
a pistol they plunged forward—in wagons, on
bicycles, afoot. This historic photograph
September 16, 1893, as thousands of
line into the Cherokee Strip

The pioneer of this region who kept his claim is now able to purchase the better farm of his neighbor, and have money to spare. This section became the Mervine Oil Field. Development of the Field began five years ago, and is intensely active today. These rocky, barren homesteads, which were taken twenty-six years ago—only after everything else was gone—have since become properties so valuable that oil men offer large bonuses for the opportunity of developing them for oil and gas.

The race lasted all afternoon and well into the night. Noon on Saturday saw a country deserted by everything but coyotes and an occasional Indian. Sunrise the next morning saw a great State in the making. It saw four men or four families on every square mile of land. It saw cities of people, camped on town



Sunday morning saw four men or four families on every quarter section of land

lots, planning already to build banks and open stores. Doctors were making known their profession, lawyers were selecting sites for offices, and saloons and gambling tents were already flourishing.

The eastern end of this strip, a section twenty-five miles wide and thirty-five miles long, just west of the Osage Reservation and just south of Kansas, then became Kay County, Oklahoma. Included in it also is the reservation of the Ponca tribes, still an Indian country.



The transition from wild plains to agricultural region was rapid, and Oklahoma was admitted to the Union as a State in 1907.

Many of those people who made the race for land still own the farms which they "staked" that day. An Old Settlers' Picnic is held a few miles west of Ponca City every year, where those "old timers" meet to recount the tales of the race.

The horses that made the run were still quite plentiful a few years ago, but their owners were already beginning to use cars driven by gasoline produced on the farms which those horses had won.

For many years after the opening, in fact until about 1910, Kay County was still a cattle and farming country. It was fairly prosperous as agricultural districts go. Ponca, its principal city, was a farm trading town, and a trading post for the Indians. Even today, a



Kay County became famous for its great crops of corn, its beef products and its herds of swine

large source of the revenue of Ponca City merchants is from the Indians of the Osage Reservation, just across the Arkansas River—still an Indian and cattle country—and from the Indians of the Ponca and Otoe Reservations, just south.

It is probable that Ponca City is today the greatest Indian center in the United States. Hundreds can be seen on the streets of the city every day, the older ones dressed in moccasins and flaming blankets, and the younger ones, especially the Osages, driving big automobiles and dressed after the latest fashions.

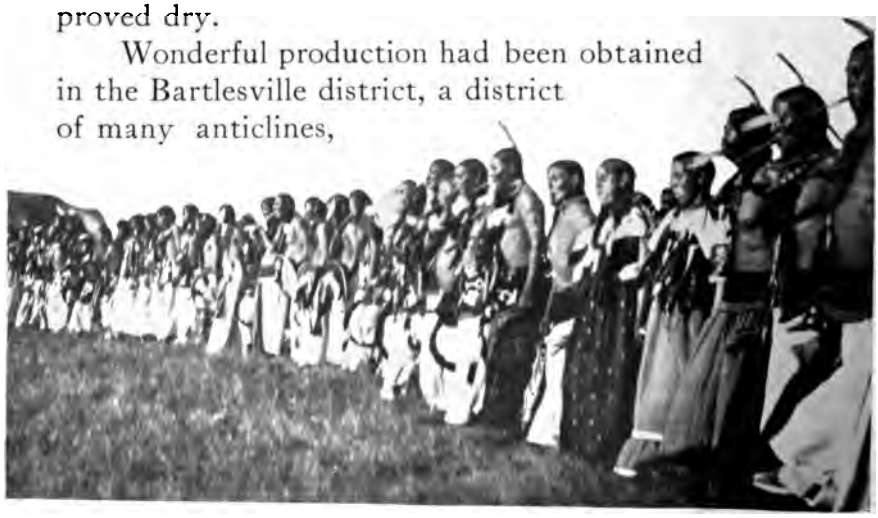
The discovery of oil and gas near Bartlesville, about seventy-five miles east of Kay County, had begun to attract the attention of oil men to the possibilities of developing oil in Kay County. Most oil men at that



Ponca City is today probably the greatest Indian center in the United States

time scoffed at geology. They drilled for oil in a hit or miss sort of fashion, spending money to drill test wells on or off an anticline as their luck happened to be, and abandoning the entire section if the first well proved dry.

Wonderful production had been obtained in the Bartlesville district, a district of many anticlines,



Indians still hold their dances and observe the customs of their fathers

just east of the Osage, and south from there to the Tulsa and Muskogee Fields. This region, and the eastern part of the Osage Reservation, was so productive, on account of its many anticlines, that oil men attempted to extend the territory on west, but the Government had not yet decided to open all the Tribal lands of the Osages to oil development. For this reason the oil men began a study of the possibility of picking up the producing sands on west of the Reservation in Kay County.

Practically all the experienced oil men were skeptical about the possibilities of Kay County. They declared there was little oil west of the ninety-sixth meridian, which is the east boundary of the Osage. A "geologist" with his map of an "anticline" was placed in almost the same category as an "oil witch" with his forked stick.



In December, 1908, E.W. Marland, a Pennsylvania oil operator, in company with Lieutenant, now Colonel F. R. Kenney,

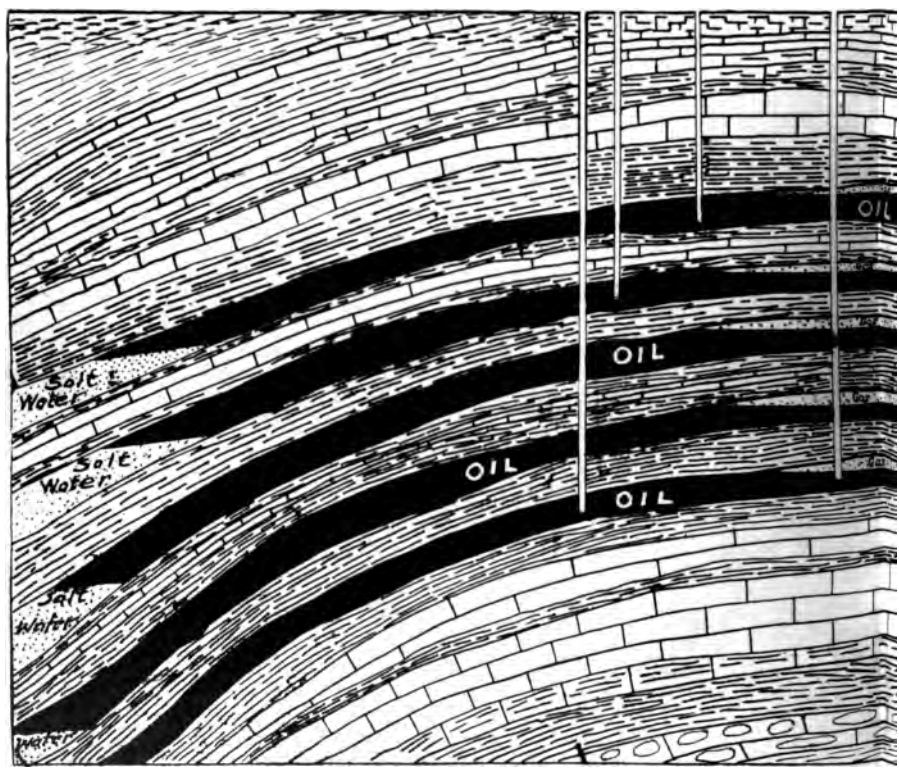


U. S. Regular Army, made a visit to Kay County to study the possibilities for oil. Mr. Marland had made a study of geology for years, back in the West Virginia and Pennsylvania fields. He had already come to the conclusion that practical oil geology would revolutionize the producing end of the petroleum industry.

The anticlinal theory of the location of oil deposits is so simple and so generally accepted now that a brief explanation should be given.

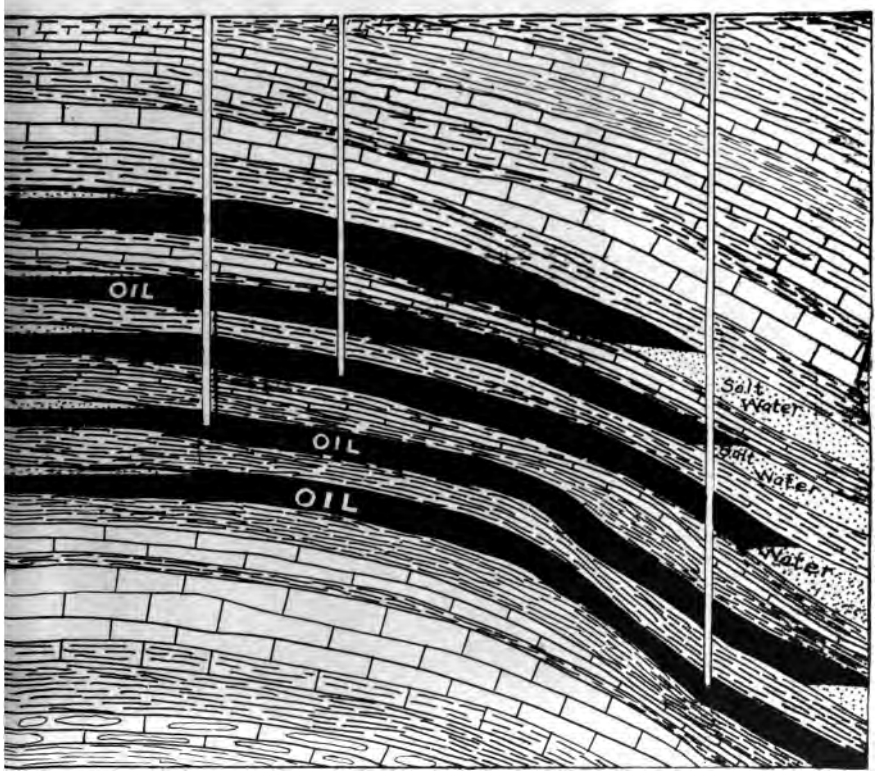
In earlier geological periods, millions of years ago, when the ocean covered all or most of the land, the creatures of the sea lived their span of life in the plant life of the sea, and at their death their remains sank to the bottom. The remains of animal and vegetable matter were deposited through ages on the floor of the sea, where, the pressure of the water being so great, in time the remains became part of the enormous deposits of oleaginous shale,with layers of porous sand above and below.

Nature has Provided Reservoirs fo



A cross section showing an anticline with a numbe
the highest point in the porous sands of th
and salt water pushes upwa

ɔr Oil in the Bowels of the Earth



ɔer of sands, and showing also how gas takes
the reservoir, oil takes the next place,
ard from the syncline



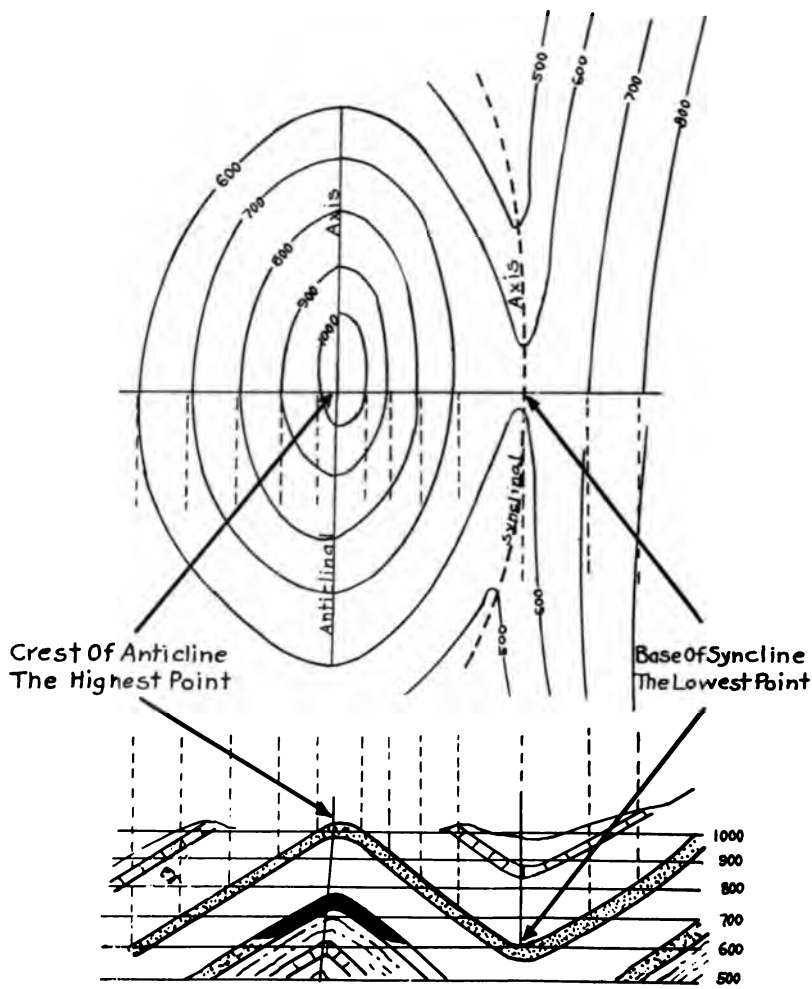
A region in Wyoming where the surface is so slightly eroded as to make the anticline plainly noticeable to the untrained eye

Later came upheavals, which brought these beds of shale and sand above the ocean level and folded and bent them, forming hills and valleys, most of which have since been eroded. The larger upheavals formed mountains.

To the untrained eye, the surface gives no indication of the former hills and valleys caused by these upheavals, but a study of the layers of rock outcropping on our hillsides tells the story of their origin to the trained geologist, who calls the former upheavals of the earth's surface "anticlines," and the valleys between the upheavals "synclines."



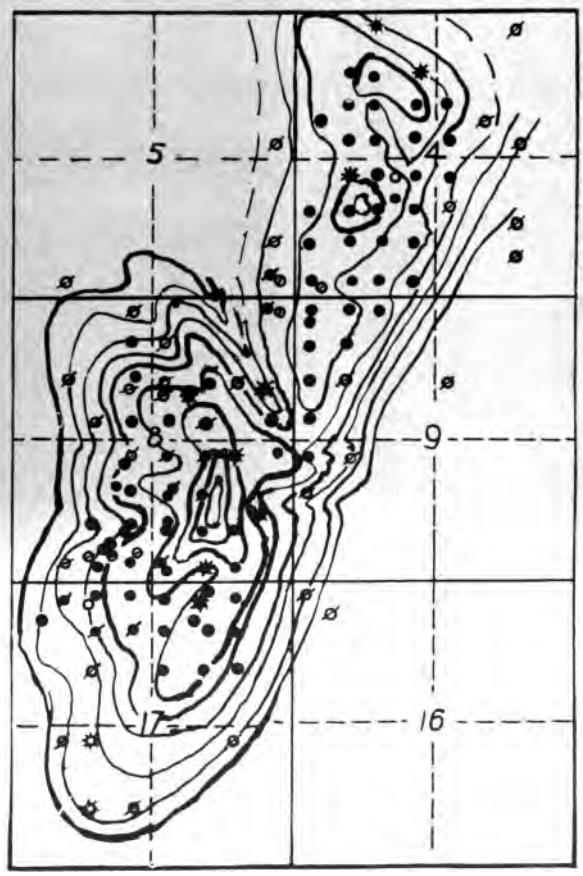
An Anticline and a Geologist's Map of It



Adapted from Practical Oil Geology—*Hager*

When the upheavals were in progress, the pressure on those oil bearing shales became greater, until the oil was pressed from the shales into the porous sands. Since these sands contained salt water from the sea in the synclines, or depressions, the oil naturally sought the highest places in the sand above the water, and the gas, which was generated from the oil, found the top of the anticline, or highest place in this natural reservoir.

The geologist seeks these anticlines today, and the driller's bit opens the way by which man can tap the reservoirs of oil and gas, stored up millions of years ago. Thus the art and the science of the oil man turns to the uses of mankind today the deposits of millions of years ago.

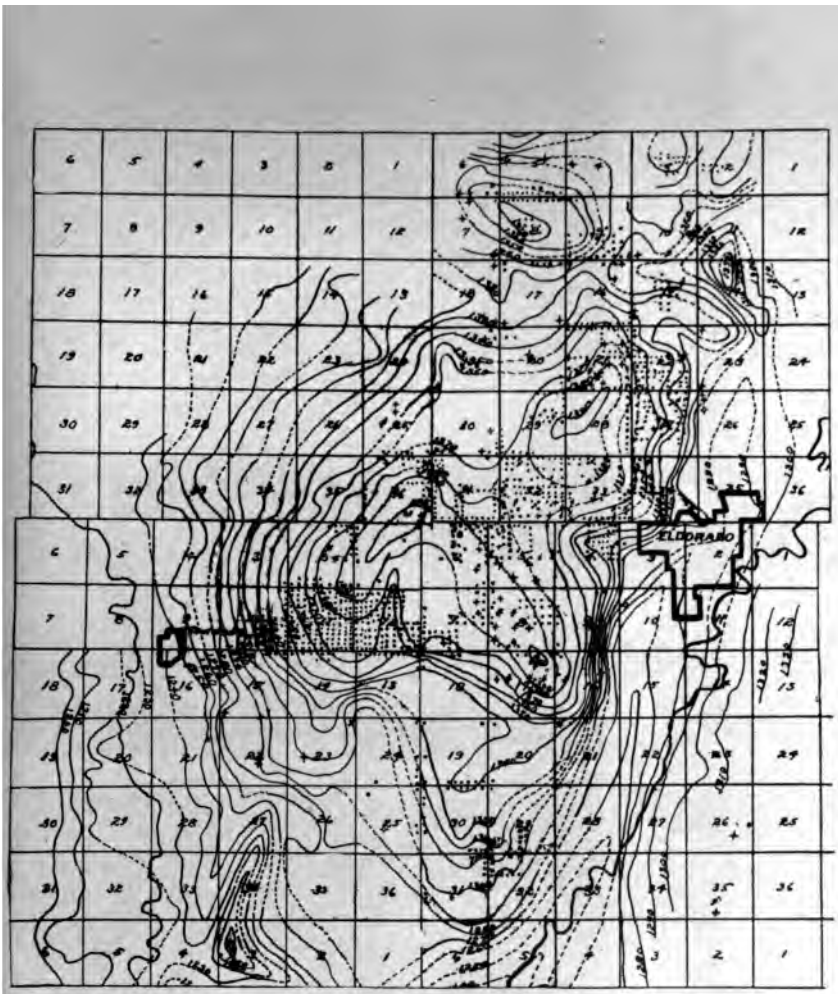


Structure map of Ponca Oil Field, showing production on anticline and dry holes at anticline base. The solid marks indicate producing oil wells, stars indicate producing gas wells, empty circles indicate locations for new wells and circles with a line through them indicate dry holes.



Augusta, Kansas, is on a Wonderful Anticline

There is probably no one thing in all the world upon which our modern civilization is so utterly dependent as it is upon oil. The lubricating oils taken from crude oil have made possible all the machinery in our shops and factories. The gasoline taken from this crude oil has made possible the automobile, the truck and the aeroplane. The fuel oil has made possible the gunboat, the submarine, and our coming great merchant fleet.



Series of Anticlines at Eldorado

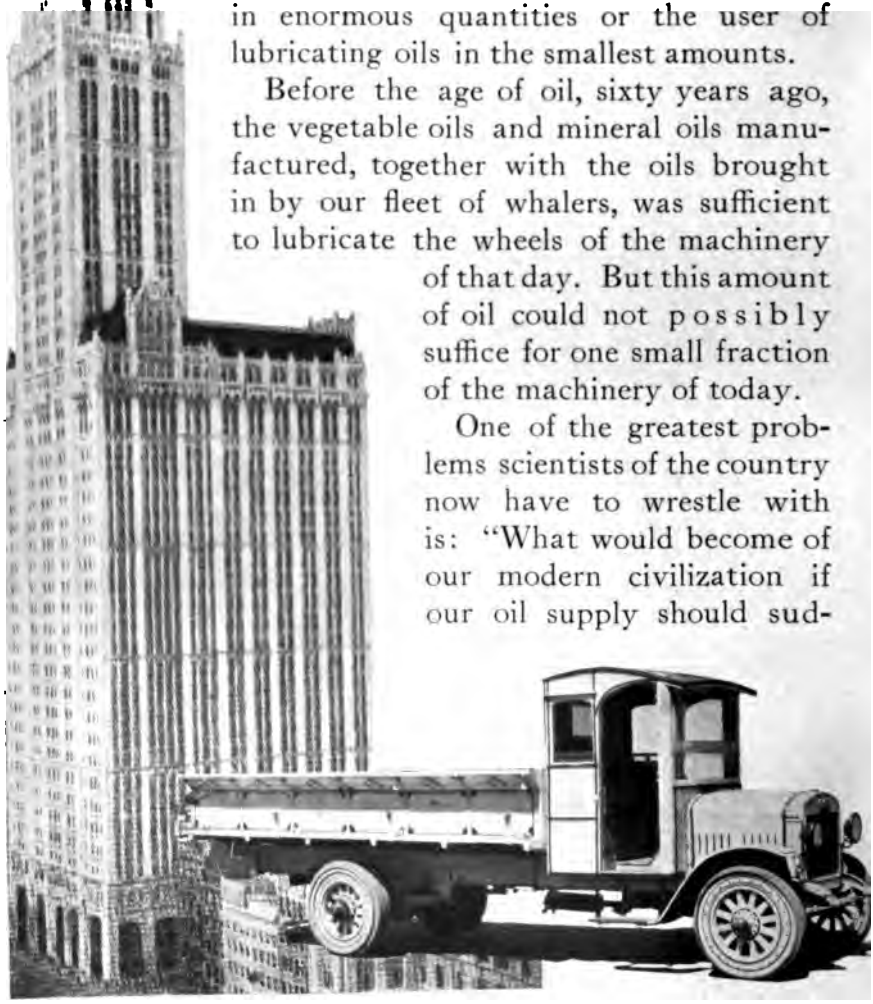
If the oil producers should suddenly find the oil resources of the earth to be exhausted, it is estimated that the total available supply of oil on top of the ground would be used up within two years. In that event, and in the event that Science could find no substitute for oil in sufficient abundance, it is a troublesome thought to contemplate what might result to our civilization.

If the reader can stop to imagine such a condition, whether he be a large or a small consumer of oil, and ask himself how he could continue his business were

there no oil in the world available, some appreciation of the importance of the industry of producing oil may be imagined. It makes no difference whether the reader be a maker or owner of an automobile or power boat, whether he be the owner of the largest manufactory, or of the smallest shop, whether he be a consumer of fuel oil in enormous quantities or the user of lubricating oils in the smallest amounts.

Before the age of oil, sixty years ago, the vegetable oils and mineral oils manufactured, together with the oils brought in by our fleet of whalers, was sufficient to lubricate the wheels of the machinery of that day. But this amount of oil could not possibly suffice for one small fraction of the machinery of today.

One of the greatest problems scientists of the country now have to wrestle with is: "What would become of our modern civilization if our oil supply should sud-



What would become of the skyscraper without lubricating oils for its elevator, and what would become of the automobile truck without gasoline for motive power?



Would we be forced back to the use of horse carriages if crude oil ceased to provide lubricants for street cars?

denly become exhausted?" How would we get the power for our automobiles? How would we move our street cars, our elevators? How would we furnish the Grand Fleet with fuel, and the aeroplane with gasoline? We would drop back fifty years, unless Science could find a substitute to take the place of oil for lubricating and power purposes.

With this thought in mind, some appreciation of the importance of the area known as the Mid-Continent Oil Fields, of which Kay County is such an important part, may be arrived at.

Mr. Marland, in 1908 to 1912, made a close study of the geology of Kay County. A prominent outcropping showed the way to a perfect anticline in the



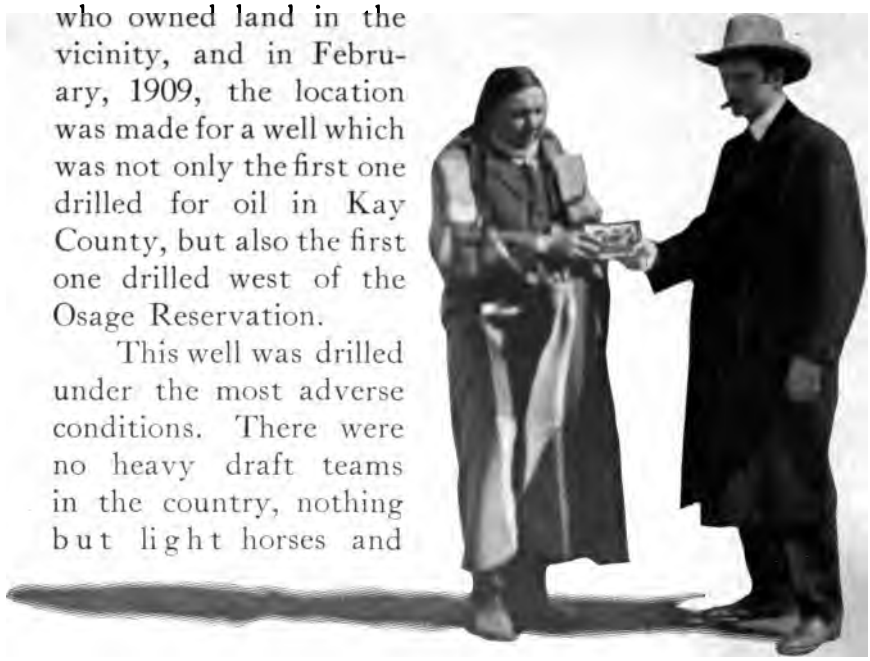
The rock ledge that led Mr. Marland to the discovery of the Ponca Anticline



region just south of what was then the small trading town of Ponca City. He mapped the anticline carefully, and then secured a lease from the Miller Brothers on the famous 101 Ranch—which contained this anticline—and was the largest ranch in Oklahoma.

Additional leases were obtained from the Indians who owned land in the vicinity, and in February, 1909, the location was made for a well which was not only the first one drilled for oil in Kay County, but also the first one drilled west of the Osage Reservation.

This well was drilled under the most adverse conditions. There were no heavy draft teams in the country, nothing but light horses and



Mr. McCaskey paying a Ponca Indian for an oil lease

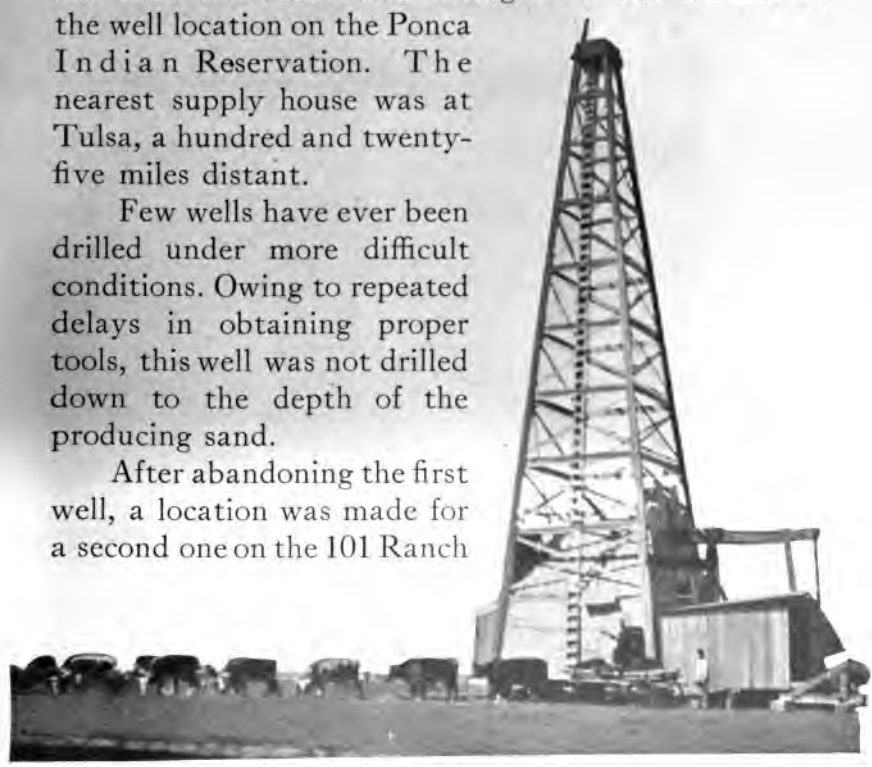


Ox teams had to be used to haul heavy material from the railroad to the well location on the 101 Ranch Mr. Marland is driving the steers and Mr. McCaskey is riding

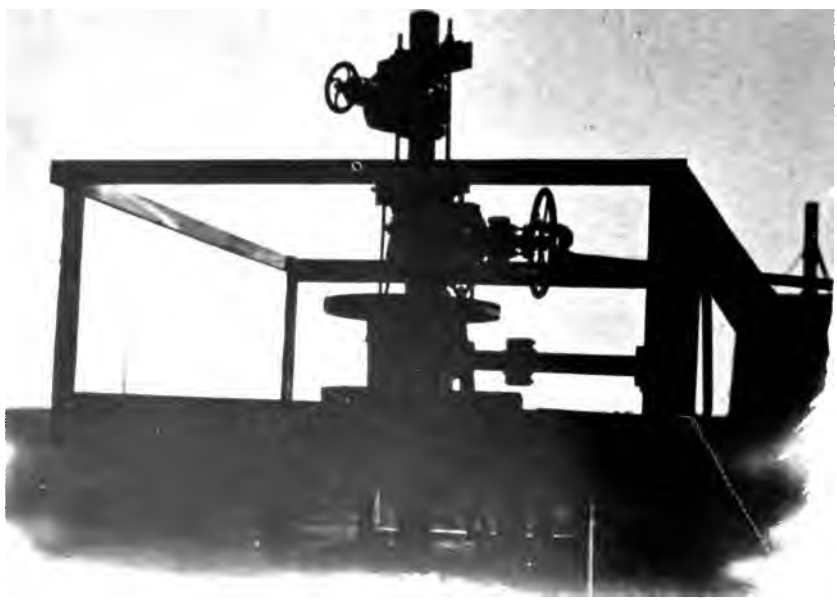
ranch ponies. Lumbering teams of oxen with their heavy wooden yokes had to be used to haul rig timbers and tools and boilers and casing from the railroad to the well location on the Ponca Indian Reservation. The nearest supply house was at Tulsa, a hundred and twenty-five miles distant.

Few wells have ever been drilled under more difficult conditions. Owing to repeated delays in obtaining proper tools, this well was not drilled down to the depth of the producing sand.

After abandoning the first well, a location was made for a second one on the 101 Ranch



At the first well





A class in geology in the University of Oklahoma, 1919

property, about five miles from the first location and well up on the anticline. The conditions under which this well was drilled were almost as bad as those for the first. In the spring of 1910, a large gas well was brought in at this location.

One old Ponca Indian, whose name was "Running After Arrow," witnessed the bringing in of this first gas well. He had never seen a gas well before. Mr. Miller, who was present, told him in the Indian language what a well was, but he could not understand the roaring gas coming from the bowels of the earth. He looked upon it as an evil omen, as a sign of coming destruction. "Uh-h, no good, no good," he grunted. "Beautiful country all die now. Cattle die. Ponies die. Trees and grass die. No good, no good. Beautiful country soon all gone."



No one realized it then, but the Indian's prophecy has come true. The plains have



Office of the 101 Ranch Oil Company. From this building was directed the early development that opened up so great an area of oil territory in Oklahoma that this State now leads the Nation in the production of crude oil

become spotted with oily derricks, herds of cattle have gradually gone the way of the ox teams, and great motor trucks now cut muddy roads across the prairies. It is only in the Osage Reservation across the river that the cattle country still remains.

At about this time, in order to carry on operations on a large scale and develop the oil which geological indications made him certain was present, Mr. Marland organized the 101 Ranch Oil Company. Associated with him in this company were Messrs. W. H. McFadden, J. C. McCaskey, and a number of other friends of Pittsburgh, Pa., and Colonel F. R. Kenney of the United States Army. This company continued in operation in the Ponca Field until 1917, when it was absorbed by the Marland Refining Company.





At the drilling in of the first oil well drilled by
development in a great region from
Newkirk, Blackwell,

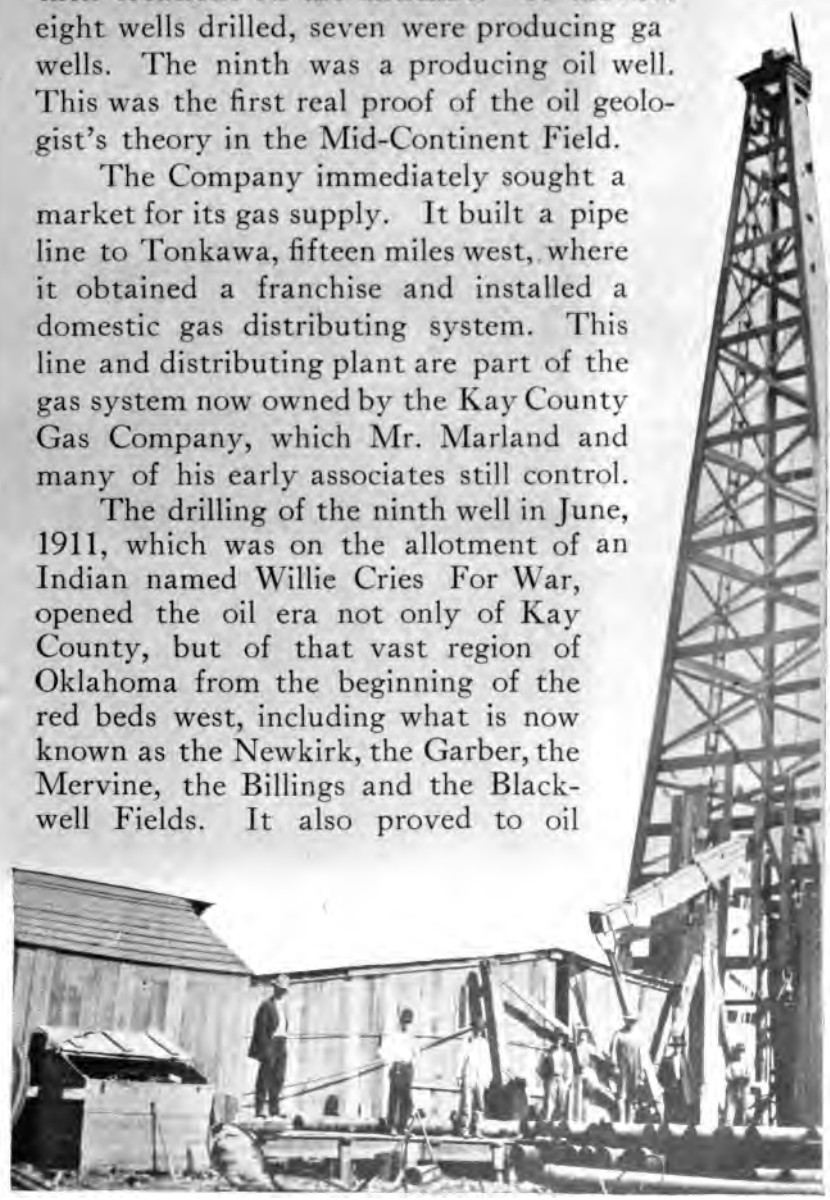


e Marland interests. This well opened up oil
ıstern Oklahoma west to Mervine,
illings and Garber

The Marland interests proceeded to drill other wells in the vicinity of the first one, always making their locations on the anticline. Of the first eight wells drilled, seven were producing ga wells. The ninth was a producing oil well. This was the first real proof of the oil geologist's theory in the Mid-Continent Field.

The Company immediately sought a market for its gas supply. It built a pipe line to Tonkawa, fifteen miles west, where it obtained a franchise and installed a domestic gas distributing system. This line and distributing plant are part of the gas system now owned by the Kay County Gas Company, which Mr. Marland and many of his early associates still control.

The drilling of the ninth well in June, 1911, which was on the allotment of an Indian named Willie Cries For War, opened the oil era not only of Kay County, but of that vast region of Oklahoma from the beginning of the red beds west, including what is now known as the Newkirk, the Garber, the Mervine, the Billings and the Blackwell Fields. It also proved to oil



One of the first 101 Ranch Oil Company gas wells



The second producing oil well in Kay County





Oil men and scouts were soon coming to I
taken at Mr. Marla



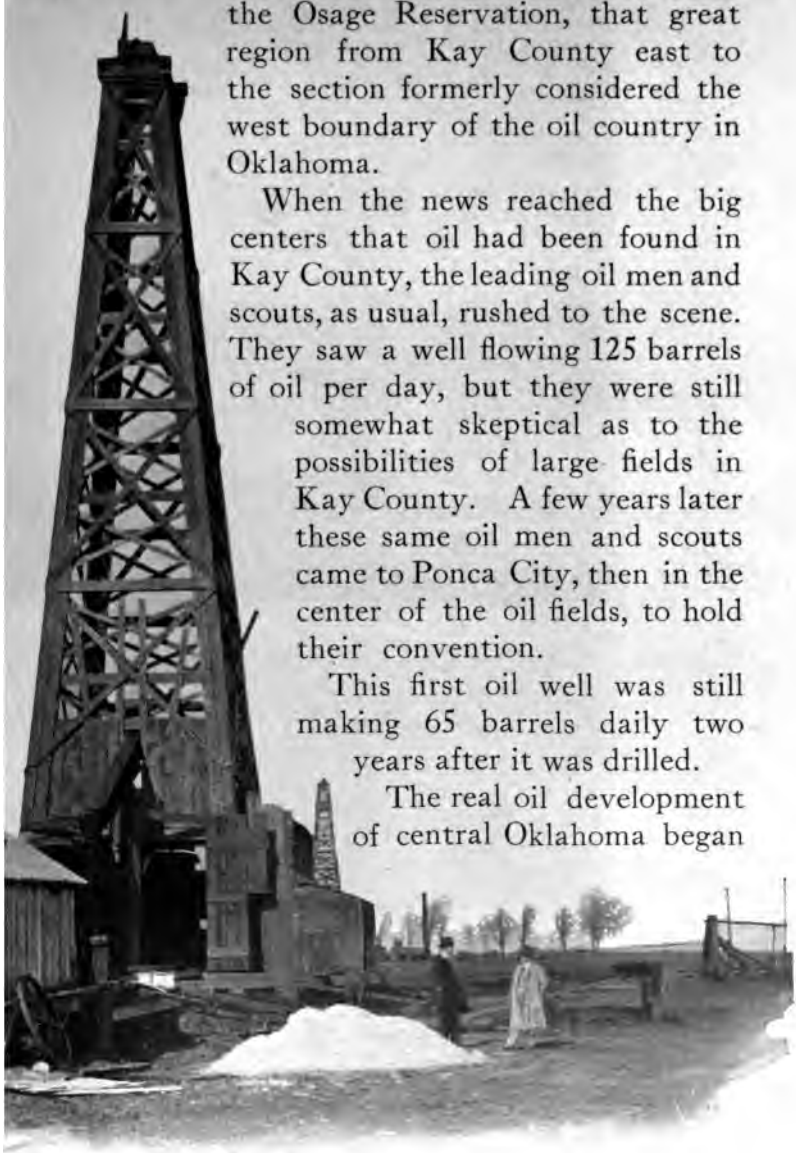
was

erators the existence of oil in the western part of the Osage Reservation, that great region from Kay County east to the section formerly considered the west boundary of the oil country in Oklahoma.

When the news reached the big centers that oil had been found in Kay County, the leading oil men and scouts, as usual, rushed to the scene. They saw a well flowing 125 barrels of oil per day, but they were still somewhat skeptical as to the possibilities of large fields in Kay County. A few years later these same oil men and scouts came to Ponca City, then in the center of the oil fields, to hold their convention.

This first oil well was still making 65 barrels daily two years after it was drilled.

The real oil development of central Oklahoma began



est producing oil well in the State of Oklahoma. This is the Mollie Miller No. 9, in the Ponca Field. May 1, 1919, it was still making about 300 barrels of high grade oil a day from a depth of 4000 feet. Mr. Marland and Mr. McFadden are standing beside it. In just the same way that the Marland interests opened up a vast oil territory by developing production in the Ponca Field several years ago, they proved vast new possibilities in that same territory in January, 1919, by discovering this new producing sand underlying the others

on the day the Willie Cries For War well was brought in.



Later development rapidly strengthened confidence in the geologist's theory and in the producing possibilities of this region. Both United States and State Geological Surveys mapped the Ponca structure after it was discovered by the Marland interests. Other structures in Kay County were mapped in 1913 and 1914 by Government geologists, but most practical oil men still were skeptical. There were probably not more than two professional oil geologists in Oklahoma at the time of the discovery of the Ponca anticline. Mr. Marland began the organization of a Geological Department for his company in 1915, and the development of practical oil geology in Western Oklahoma had its beginning.



A well just drilled in, in the Ponca Field. It flowed 250 barrels of oil on April 5, 1919. Armour S. Cooper, of New Cumberland, West Virginia, is standing beside the well



The State University has been forced to provide a building for the use of its Geology Department alone

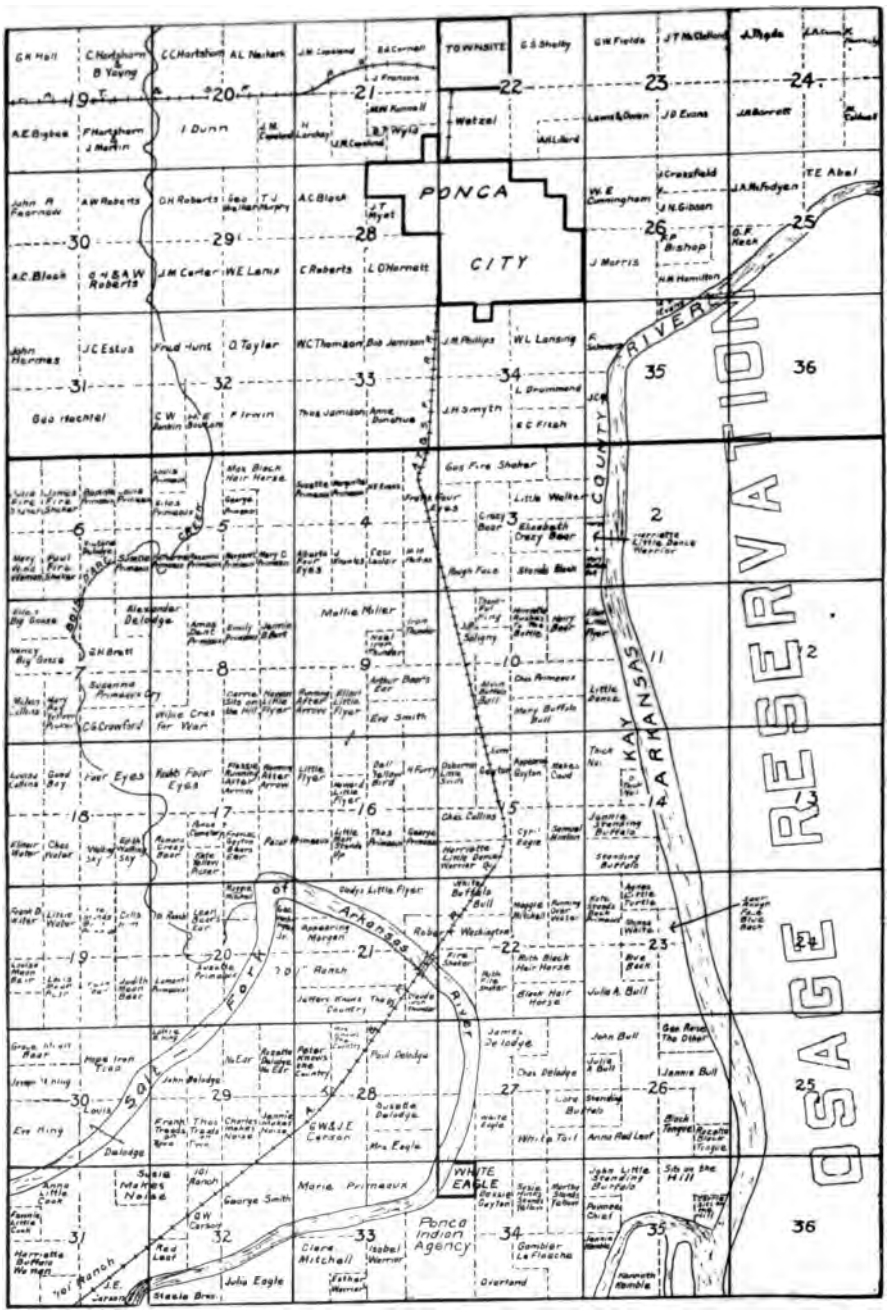
Every big company now has its staff of geologists, some companies employing two or three hundred men in that work alone. The Marland Refining Company still maintains a leading place in the field of geological research.

The State University is turning out big classes of trained geologists every year, and the demand for more and better geologists has forced the State to erect a building for the exclusive use of its geological department. The profession of geology has grown in these few years until thousands of geologists are now employed in the Mid-Continent Field. Today, as a matter of course, a geologist's report is obtained before a location is made for a new well.



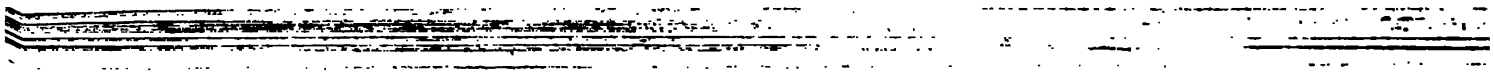
The development following the drilling of the first well on the 101 Ranch was rapid. The new field was called the "Ponca Field," because it is located on the Ponca Indian Reservation. Strange names appear on the field plat. One can tell easily where the Indian country ends and the white man's country begins.

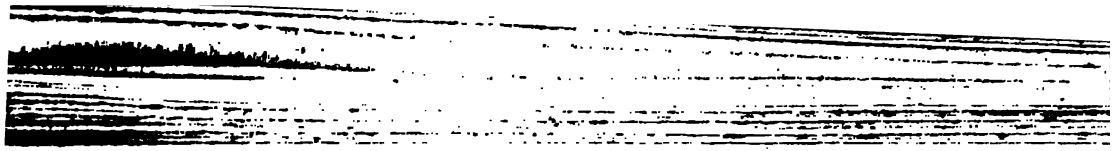
The Kay County Gas Company



Strange names appear on the plat of the Ponca Field









Newkirk home of the Kay County Gas Company

had already obtained franchises for the distribution of natural gas in Ponca City, and in Newkirk, fifteen miles north of Ponca. In 1912 and 1913, it piped these towns for gas and has ever since that time supplied their inhabitants and industries with natural gas. Drilling was carried on at a lively pace, and within a short time the high grade crude produced in the Ponca Field had a regular quotation on the market.

Rapid development in the entire central and western district began with the completion of the Willie Cry well. While developing the Ponca Field, now worth millions of dollars, the Marland interests developed a new field near Newkirk, located on an anticline discovered in 1912, which proved highly productive of both oil and gas. The famous McMichael well, which for two years has furnished the chief gas supply for three cities supplied by the Kay County Gas Company, is located in this field.



The Marland interests next turned their attention to the Blackwell Field, a perfect anticline on which, in 1913, they drilled twenty-eight producing gas wells without a single dry hole. They built a pipe line to the Chilocco Indian School, and into Kansas for the



In the Blackwell field

marketing of this gas. The Blackwell Field has since developed into one of the greatest gas fields in the State, supplying a large part of southern Kansas at the present time. It is estimated that during 1918 more than twenty-seven billion cubic feet of natural gas was taken from this field alone.

In 1917, the Billings Field, southwest of Ponca, was opened up, on an anticline previously mapped by Government geologists. This proved again the value of oil geology. In the same year the Marland companies aided in bringing in the Garber Field, one of the best of the entire Mid-Continent section. The Marland Company now owns, in partnership with another of the large companies, one of the best quarter sections in this field.

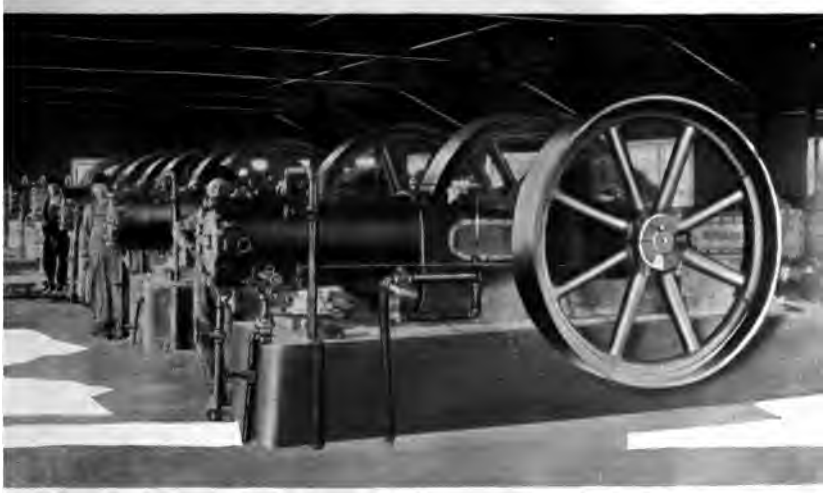
This field is peculiar not only in that it produces the highest grade crude in the Mid-Continent Field, but also in that it produces oil from four different sands, ranging in depth from 1100 feet to 2100 feet, making 160 acres in this field equal to at least a section of ordinary producing territory. The drillers are still seeking additional sands, perhaps more prolific than the present ones.



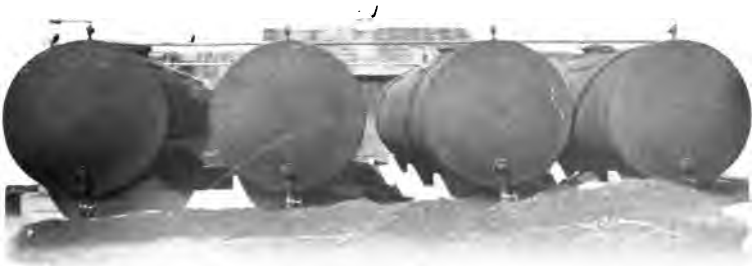
rope
eld.



Partial view of the gasoline plant on the Marland Refining Company property at Garber



An interior view of the Garber Gasoline Plant



A battery of tanks at the Garber Plant



One of the Marland Property Power Houses at Garber

No oil field has been discovered in this entire region which is not on an anticline. So not only has the geologist's theory been completely proven, but those companies which early realized the value of practical oil geology have obtained the most valuable acreage.

Although it has been over a period of years, the oil opening of the western Mid-Continent Field is similar to the opening of the Cherokee Strip to settlement back in 1893. The drilling of that first oil well by the 101 Ranch Oil Company was the signal for the rush, and that rush has continued until Oklahoma is now the first



Marland Refining Company loading racks at Covington. Oil is piped to this station from the Garber property, then shipped to the markets in the Company's own tank cars



The Ponca Indian Agency, just south of the Ponca Field, today

oil producing state in the Union, the sands under this State yielding during the year 1918 probably a hundred million barrels of oil, worth $250,000,000.

It is a significant fact that the Osage Indian Reservation, only partly developed, and the territory for seventy-five miles immediately surrounding it, supplied during the year 1918 an enormous proportion of all the high grade oil produced in the world.

Just as the building of grain elevators and of mills, of office buildings and of factories followed closely on the agricultural development of the Cherokee Strip, so the building of many refineries, of gasoline plants and of pipe lines followed closely on the oil development. There are peculiar advantages



for refineries and other oil industries in this region which readily explain their rapid growth.

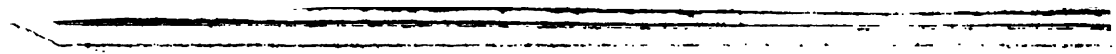
The Marland Refining Company plant at Ponca City is not a large one as mammoth industries go, but it is doubtful, indeed, if another refinery in the entire country has the advantages of this plant, built on a prairie which was until recently a part of the great open cattle range of the Indian country.

From one of the storage tanks at its Refinery can be seen, on adjoining farms, the derricks from which high grade crude oil is pumped directly to the refinery. Between the field and the refinery is another group of



Office building of the Marland Refining Company and Kay County Gas Company. The addition on the north is for Kay County Gas. The first floor includes the Company's private garages and machine shops for its automobiles, trucks and tractors







These stills at the Marland Refinery have a capacity of 2500 barrels of crude oil a day

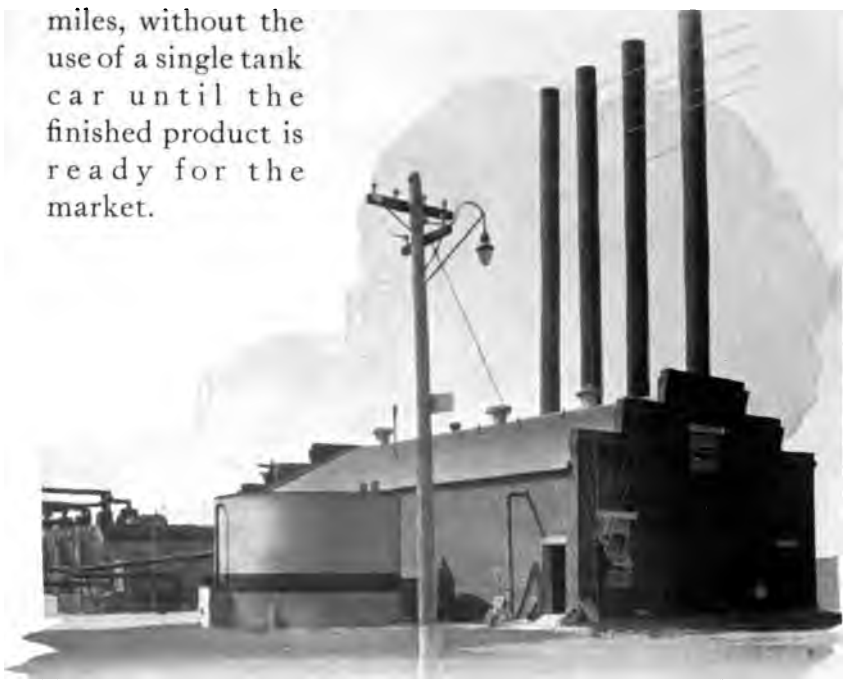
structures, the gasoline plant, which compresses the gasoline from the gas taken from these wells, and returns the gas by pipe lines back to the field to furnish fuel for new drilling operations. Naphtha, or kerosene, produced at the refinery, is run in pipelines a short



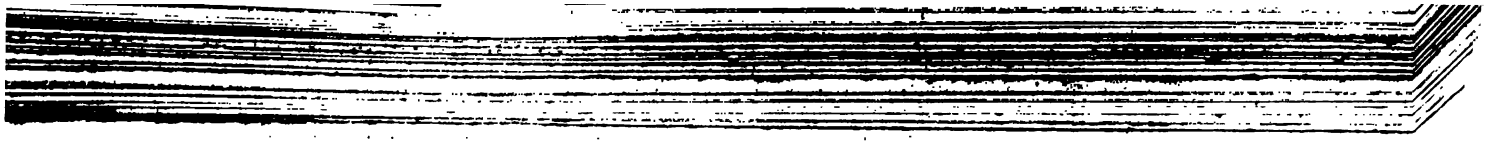


At Garber

distance to the gasoline plant, where it is blended with the gasoline which has been compressed from the gas, and the resulting product is motor fuel. This product is piped in other lines, less than a half mile long, to the loading racks, from which it is shipped in the Company's own tank cars to the markets of the United States. The entire producing, refining, compressing and blending operation is accomplished within a radius of two miles, without the use of a single tank car until the finished product is ready for the market.



"Power" for the Refinery



Everything in the latest machinery is included in the Ponca City Gasoline Plant



Marland Refining Company builds modern little homes for its employes. These are at the Ponca City Gasoline Plant



Marland Refining Company Gasoline Plant at Mervine

From the top of this same tank at the Refinery, one can see the strings of tank cars on Santa Fe side-tracks, arriving and departing. The city of Ponca is just to the right, and beyond that, the Osage Indian Reservation — field for limitless operations — an oil



Employes' houses at the Mervine Plant





Company loading racks, ac



e Refinery at Ponca City



Marland Refining Company loading racks at Mervine

empire whose anticlines have waited for years for word from the Government, that the driller's tools might penetrate their sands.

And from that same tank can be seen the three cities which the Kay County Gas Company supplies with gas, the fields from which its present supply comes, and its new 200,000 acre lease, just obtained from the Osage Tribal Council on their Indian Reservation. The office building of the Marland Refining Company can be seen from that same point. And at the corner of that building is one of the Company's filling stations, at which Red Triangle Gasoline, one of the Marland products, is sold to the man who uses it in his own automobile.



So within the vision of one's eye, from a single point, is a field producing high grade crude, a gasoline plant, a refinery with all its depart-



Laboratories of the Marland Refining Company, located at the Refinery

ments, storage tanks, loading racks, tank cars, general office building, gas distributing systems, and just across the Arkansas River from these, a virgin oil and gas territory, the Osage Reservation, awaiting development.

The oil business is an industry of constant change. New methods are being discovered each day. The individual or the company that stays in the business must be in the lead a full part of the time. The oil companies not only keep specially trained men for each department of work, but they also have laboratories that are constantly searching for new methods of obtaining old products, and for new products that may be obtained from crude petroleum.







The Ponca Oil Field is gradually being extended furthe
graph, taken on April 5, 1919, shows a herd of cat
field. The derrick in the distance is a produ
a mile south of the fo



into the Indian Reservation to the south. This photo-
e being grazed up to the south edge of the Ponca
ng gas well brought in during 1919, almost
ner limits of the field



Bacon Rind, former chief of the Osages

WHILE the world is still wondering at the transition of the Cherokee Strip from cattle range and Indian country to a vital industrial center, most people have failed to see that another region is now going through a similar transition. This region



Cattle kings of Texas, who formerly grazed their herds in the Cherokee Strip, now send cowboys to the Round-in the Osage Indian Reservation

is the Osage Reservation—a vertible little empire in itself, governed by a Council of Indians—lying just across the river from Kay County.

The Osage Indian Reservation has an area of 2350 square miles. It is as large as the state of Delaware.

The Osage Reservation is the least developed country yet remaining in Oklahoma. Its plains are still used for the grazing of great herds of cattle, with only here and there a ranch house or a farmer's little clearing. Fences, many miles apart, divide the ranges of the cattlemen, and the trails are still used by them as much as by the oil men, who are scouting the country preparing for the rush of development that is just beginning.



"Yesterday" and "Today" on the streets of Pawhuska, Capital of the Osage, on April 7, 1919





in the Osage



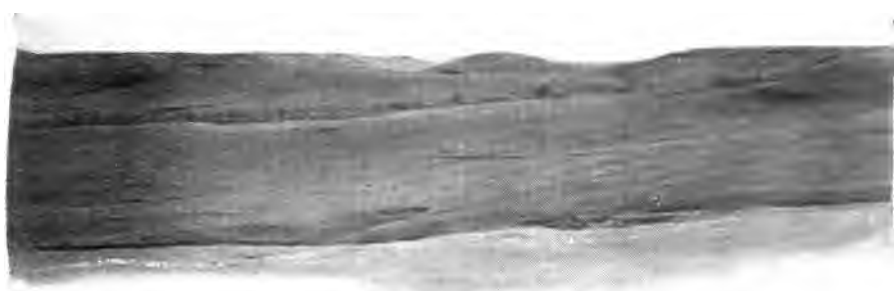
McFadden's





The Osages are still wards of the United States Government. There are about two thousand, two hundred of them on the roll, officially members of the Tribe. Each Indian is estimated to be worth $50,000. Each one draw about $5,000 a year from the treasury of the Tribe.

This money comes from oil and gas royalties and bonuses which the white man pays for the privilege of developing the land. Oil, gas and mineral rights belong not to the Indian on whose land the oil or gas happens to be found, but to the Tribe as a whole. The Tribal Council leases the land, with the consent of the United States Government, and it divides the bonuses and royalties among the members of the Tribe.



Cow trails show the way over the hills and across the valleys of the Osage Reservation



Blanketed Osage Squaws still carry their papooses on their backs

The Osages are probably the most picturesque tribe of Indians in the world. Unschooled in the ways of the whiteman, many of them without education or training, they had suddenly thrust upon them such wealth as no group of people ever came into possession of before. They are still a band of blanketed Indians, yet a family of five can spend $25,000 a year, more than two thousand dollars every month, almost a hundred dollars a day, without thought of what the morrow will bring forth, for tomorrow's oil, flowing from under the Tribal lands, will make tomorrow's income even larger than today's.

Practically all the wealth of the Osages has come from the oil and gas development of the east part of



Charley Wahhreshe, said to be the richest full-blood Osage Indian, on the streets of Pawhuska with a Marland Refining Company oil scout, on April 7, 1919



Oil brought wealth to the Miller Brothers of the 101 Ranch

their Reservation. The United States Government would not permit development on the west side, because the Indians were already getting more money than they could spend, and the world did not need the oil. But when war came and with it the knowledge that oil was a vital factor that might mean victory or defeat, the Government decided that the west half of the Osage, virgin oil territory with proven fields all around it, must be opened up for development.



The east half developed, the west half untouched, the Osage Reservation



An Osage Council House at Pawhuska. Photograph taken on April 7, 1919

lies in the heart of the greatest oil territory that oil men have yet found. The east part of the Reservation alone produced more than ten million barrels of oil in 1918, and more than twenty-five billion cubic feet of natural gas. Just across the east line of the Osage is the great Bartlesville district. The city of Tulsa, which is today the oil production center of the world, is built up partly in Tulsa County, and partly in the Osage. The Muskogee, Sapulpa and Okmulgee oil districts form one continuous oil territory from the Osage south and southeast for fifty miles, and immediately south of the Reservation is Cushing, the "Klondike" of all oil fields, and Drumright and Oilton, and Shamrock — where everything from postoffice to depot is painted green.



Quay, on one of the best producing anticlines in the Mid-Continent region, is in sight of the hills of the Osage. The Cleveland Field includes both sides




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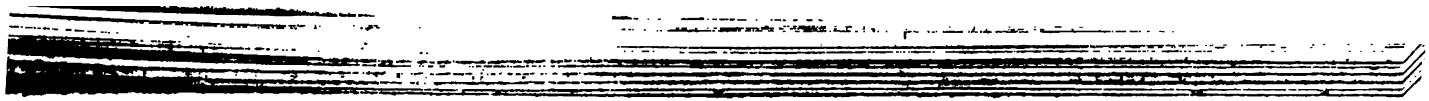
ory








lars worth of





A "hotel" in the oil fields

of the Arkansas River, which is the south border of the Osage country. The great Standard Oil tank farms and refineries cover the entire region surrounding Yale, which is just south of Quay and north of Cushing.



Pump jacks replace derricks in older fields



The Morrison pool, from which Oklahoma City is obtaining its gas supply at this time, is just across the river southwest of the Osage, and farther up the Arkansas River is the Ponca Field, which is the center of the great Newkirk-Garber-Billings-Blackwell district.

Garber produces a higher grade of crude than the Pennsylvania fields, and Blackwell is one of the best gas fields in this section of the country. This Ponca Field not only produces a high grade of oil, but it has a number of sands. The Mollie Miller No. 9, property of the Marland Refining Company, in this field, is the deepest producing well in Oklahoma. On May 1, 1919, it was making about three hundred barrels a day, at a depth of approximately 4,000 feet.

Directly north of the Ponca Field, and just across the line west from the Osage, are the Mervine and the Newkirk Fields, both on well-formed anticlines, and each occupying an important place in the production of the Mid-Continent Field.

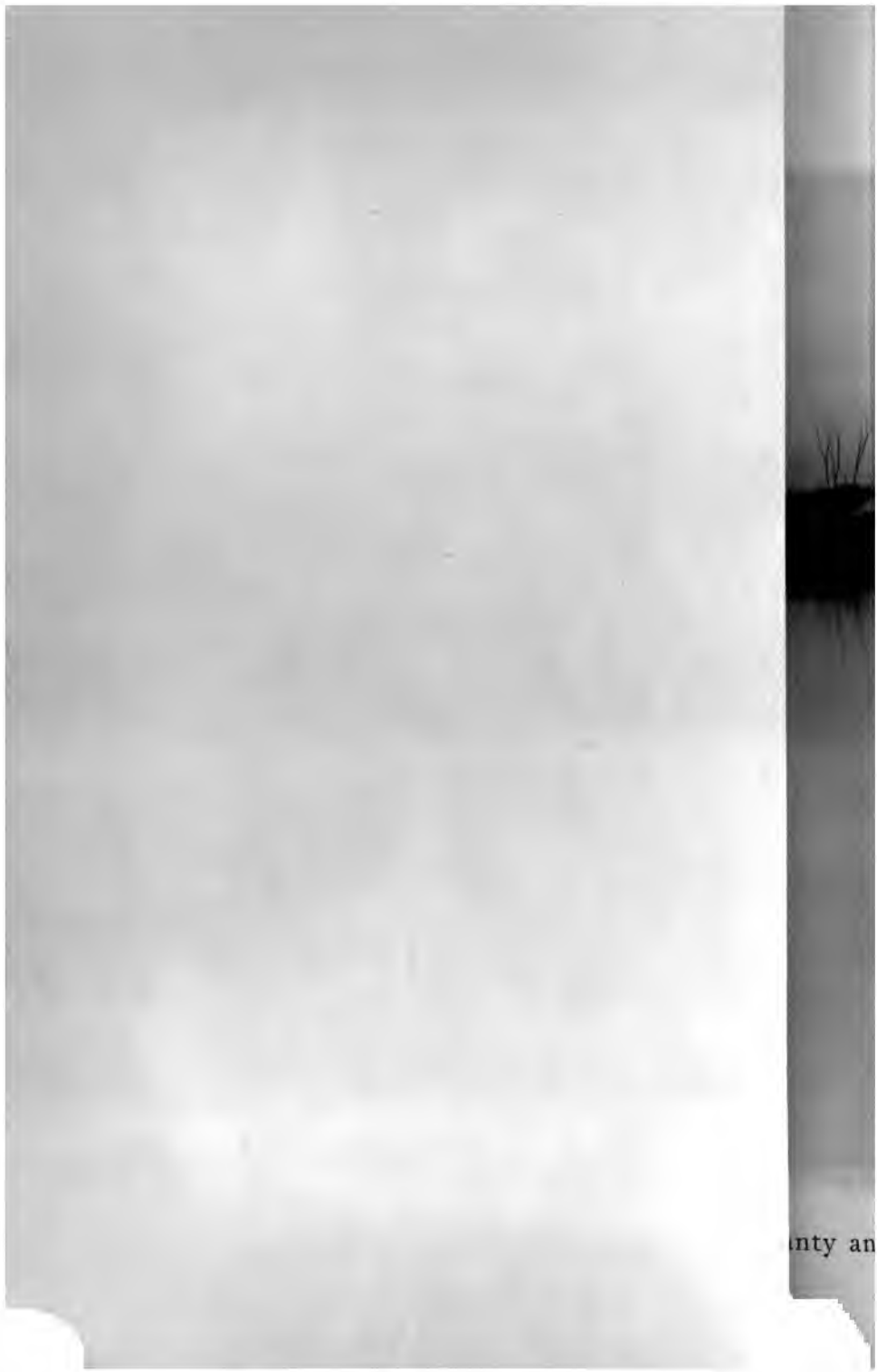
North of this undeveloped Indian Reservation are the oil fields of Kansas, including Augusta and



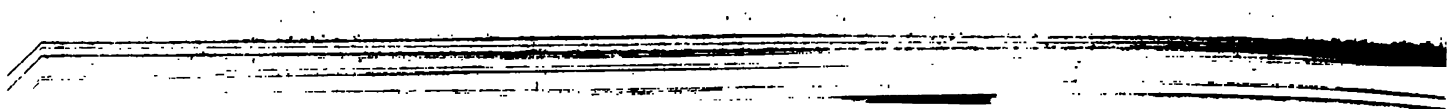
















El Dorado, two anticlines that produced, during the year 1918, 36,069,670 barrels of oil.

The entire western country and the country surrounding it is undulating with many hills and valleys, where the early geological upheavals can easily be traced and anticlines can be mapped. Not one of these that has been approved by capable geologists has failed to produce oil or gas when tested by the drill.

A year ago, this oil country was in just the same condition as the Cherokee Strip in 1893. It was entirely surrounded by the greatest oil fields in the world, Bartlesville, Tulsa, and Muskogee on the east and southeast; Sapulpa, Cushing, Drumright, Quay, Cleveland and Morrison on the south; Ponca, Garber, Billings, Blackwell, Mervine and Newkirk on the west; and El Dorado and Augusta on the north. The oil men of the country, just as the Boomers in 1884 along the Strip, were working in every way possible to have the territory opened to development.



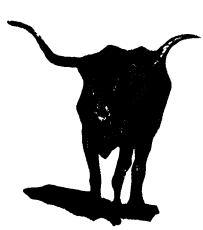


Bidding on leases at the "Opening of the Western Osage," at Pawhuska on November 9, 1918. The money that is invested in oil throughout the Western Hemisphere was represented in this gathering of men

Then came the war, and the announcement that the western Osage would be opened for oil development. The date set for the first "oil opening" of the western Osage was last November 9, barely half a year ago, and the place for the "opening," Pawhuska, center of the Osage Reservation and seat of the Indian Agency.

The oil interests of the world were represented at that Osage sale last November. Just as pioneer settlers from North, South, East and West flocked to that run for homes in the Strip, back in 1893, so the oil men of the country gathered to compete for leases in the Osage last winter.

The Standard Oil Companies, representing millions and millions of dollars, were there. Operators from Pennsylvania and California, from Texas and Louisiana, from Kansas and Oklahoma, sat side by side with representatives of the great English and Dutch and Mexican interests, bidding on properties that might become another Cushing or another El Dorado.











Oil men of the world were there

The sale was held out under an old oak tree, beside the Indian Agency, overlooking the city of Pawhuska. It is doubtful if there has ever been held anywhere a public auction to compare with it. The capital invested in the development of oil in the western hemisphere was represented under that old oak tree, in the center of an Indian reservation. Oil man, banker, geologist and scout sat side by side as the auctioneer named the location of tracts and called for bids.



Waiting for trucks to the Western Osage—a half million dollars worth of casing in the yards of the Marland Refining Company, at Ponca City



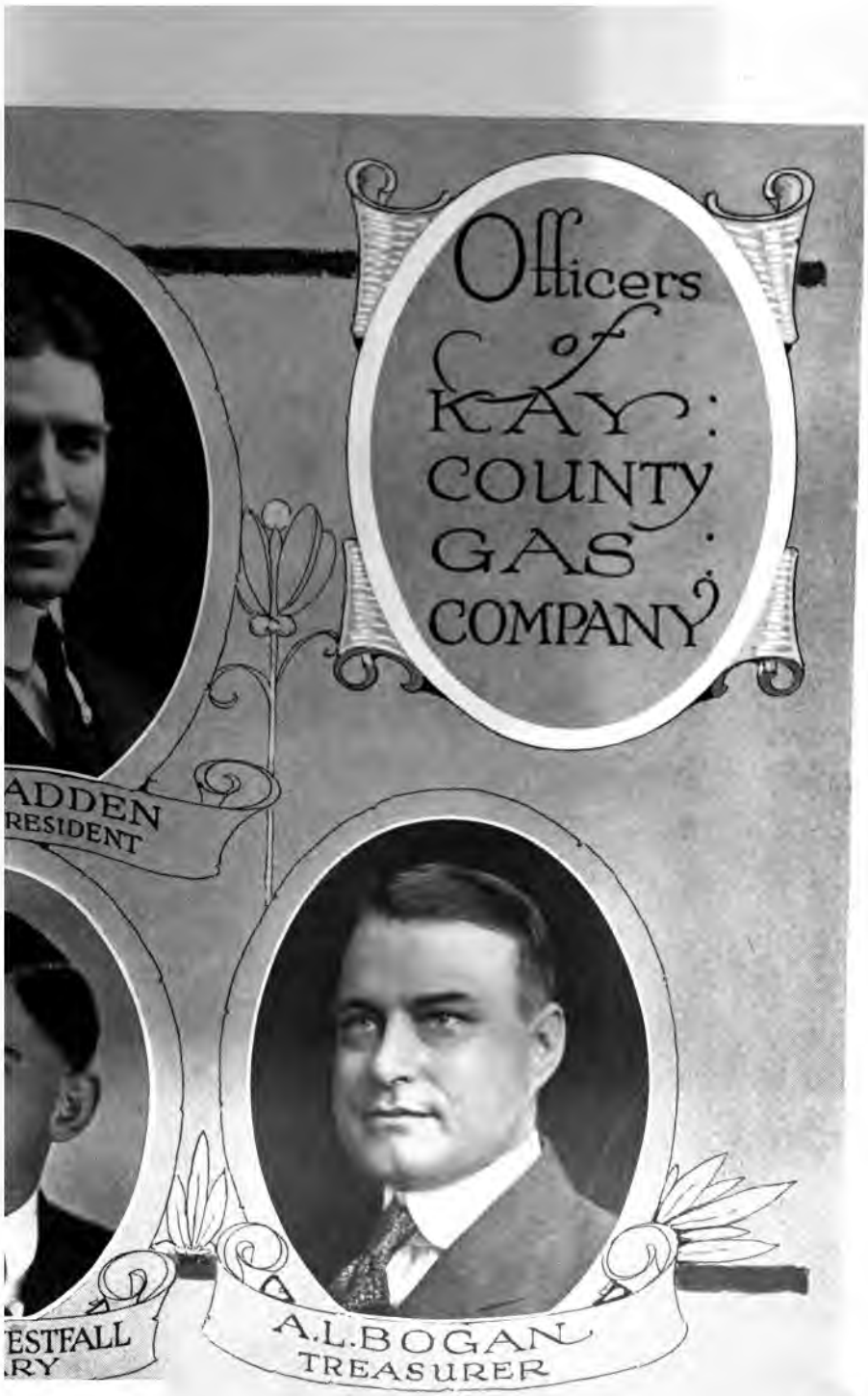
The shaded portion shows the 200,000 acre gas lease in the Western Osage, obtained by Kay County Gas Company last November 9th. This enormous property should produce heat and light for a dozen cities, and fuel for a hundred factories.

The Osage Reservation covers an area of approximately 2,350 square miles in perhaps the most favorable oil and gas territory in Oklahoma. Production has been found not only in the areas surrounding this country, but pools have been extended into The Osage and numerous pools opened up within the region itself. The Federal restrictions have checked development in The Osage. This policy of restriction has no doubt conserved for future development enormous quantities of oil and gas.—*Official Bulletin, Oklahoma State Geological Survey.*

Kay County Gas Company obtained the largest lease offered that day, the gas rights on the entire west end of the Osage Reservation, a total of approximately 200,000 acres. The Kay County Gas and Marland Refining Companies were not only heavy bidders at this sale, but they were the largest bidders at the second sale, held on March 5, 1919. From the two offerings of acreage, these two companies obtained oil or gas rights on a total of forty-two tracts of land at an initial cost of $611,870.48.

The oil produced on these properties will be conveyed by pipe lines to the Marland Refinery at Ponca


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2ND VICE PRESIDENT
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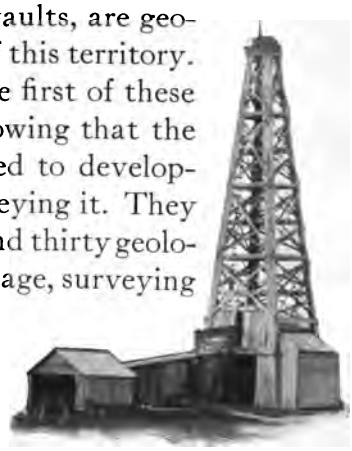

Officers of KAY COUNTY GAS COMPANY
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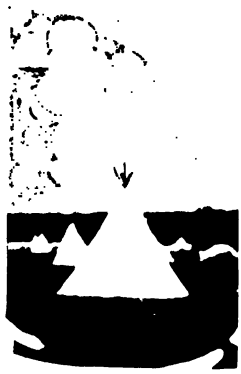
On the way to the Western Osage, where Kay County Gas Company drills are already pounding their way to the oil and gas reservoirs of the earth

City, and the gas produced by Kay County Gas Company will likewise be conveyed by pipe lines to the distributing systems of the Company in Kay County.

A total of 352 tracts of land in the Osage, which brought $6,395,420.48, were sold by the Tribal Council at the last two sales. Another sale, possibly larger that either of these, has been announced for June 5. Many oil companies have spent months in obtaining geological surveys of this region of anticlines. An idea of its importance may be obtained from the fact that in the secret archives of practically all the large companies, stored away in steel vaults, are geological maps of at least a part of this territory.



For five years previous to the first of these sales, the Marland interests, knowing that the region must some time be opened to development, had geological parties surveying it. They have had as high as twenty-five and thirty geologists employed at a time in the Osage, surveying this country preparatory to the opening. And it is generally acknowledged that the maps and information of Marland Refining



Company and Kay County Gas Company on the west half of the Osage are the most complete in existence.

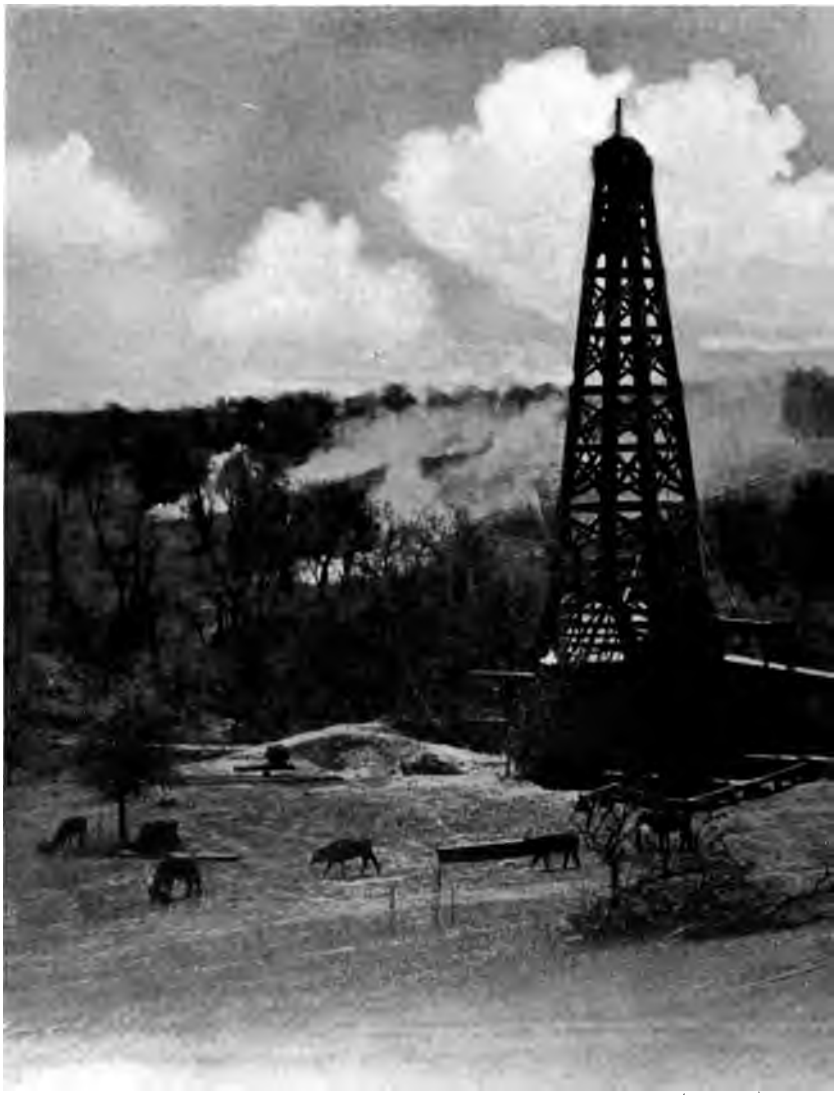
A new era for Kay County is beginning, the era of large manufacturing cities and the development of its many natural resources with the aid of abundant fuel. Its hills contain cement rock and limestone, which need only the aid of machinery, and fuel, to convert them into commercial products. Its clay veins, with proper development and abundant fuel, can be made into brick and tile for the building of a hundred cities. Its straw stacks and corn stalks, now wasted, need only the ingenuity of man, and fuel, to keep busy the employes of a hundred factories.

When the Kay County Gas Company acquired its lease in the west half of the Osage, on a tract of land thirty-seven miles long and fifteen miles wide, it secured, for the use of the towns it furnishes, the gas rights on a tract which will probably prove the most productive of gas of any single tract held by any company today.

The area covered by this lease contains many well defined anticlines, which have been mapped for the Gas Company. While this lease was made by the Osage Tribe on November 5, 1918, it was not finally approved by the Department of the Interior until February 7, 1919. The Company has already started four wells on four different anticlines on this lease. These wells are many miles apart, and if they prove to be gas wells, the future of Kay County as a manufacturing district will be *established*. Should they prove on







The "staking" of the first "oil claim" in t
Kay County Gas Co



estern Osage. This is the first well begun by
on its 200,000 acre lease

their completion to be oil wells, the oil will be piped to Ponca City, and the refining industry of Ponca City will be given additional impetus. Kay County Gas Company will then drill on other anticlines to secure its gas.

This means that Kay County can easily become a great manufacturing center of the Southwest. Factories would bring in thousands more of people, and not only the factories themselves, but also the homes of their workers, would provide vast additional demand for the product of the Kay County Gas Company.

If this little book should succeed in fixing public attention on the development of Kay County, and induce enterprising industrial managers to look into the fuel resources of this County, the publishers will feel that the book has served its purpose.



Ponca City



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